



A Leighton Group Company

November 3, 2021 (Revised June 28, 2022)

Proposal No. IR21-556

Carson Reclamation Authority 701 East Carson Street Carson, CA 90745

Attention: Mr. John Raymond

**Subject:** Revised Proposal for Geotechnical Engineering Services

Soil Cover Investigation District at South Bay

Cells 3, 4 and 5 Development

20400 South Main Street City of Carson, California

### INTRODUCTION

Leighton Consulting, Inc. (Leighton) is pleased to present this revised proposal to provide a subsurface exploration to evaluate the thickness of soil cover capping the landfill refuse at the former Cal Compact Landfill. This proposal has been revised after review of the *Top of Trash Investigation Work Plan for Cells 3, 4, and 5* prepared by EKI Environment & Water, dated March 25, 2022 (EKI, 2022). The scope of work outlined in this proposal is based on the approach provided by EKI. The scope of work is subject to variance based on conditions encountered in the field or as requested by EKI.

This is solely a scope and fee proposal. We are familiar with the site soil, landfill and groundwater conditions at the project site having performed prior studies at the former Cal Compact Landfill and during earthwork construction and foundation installation specifically in Cell 2. Upon request, we can send you our project-specific qualifications as we have been Geotechnical Engineer of Record (GEOR) for the entire re-development of the Cal Compact landfill since 2008.

This proposal includes a description of the proposed project, our proposed scope of services, a schedule, and a fee estimate; and has been tailored to meet the needs of the project and fulfill your requirements. However, should the outlined services not meet your expectations of the assignment, we would appreciate the opportunity to discuss your

concerns and make adjustments, as necessary. All onsite activity including subsurface explorations and grading are under the control of the Department of Toxic Substance Control (DTSC), requiring detailed work plans and health and safety plans be submitted to DTSC for review and approval prior to any work being conducted onsite.

### **PROJECT INFORMATION**

The project site, the former Cal Compact Landfill, is located at 20400 South Main Street in the City of Carson, California. The site is bounded on the west by South Main Street, on the north by West Del Amo Boulevard, on the east by Interstate 405, and on the southwest and south by existing residential developments (across the Torrance Lateral Channel).

The project site was previously operated as a Class 2 landfill between 1958 and 1965. Refuse was placed in multiple cells separated by haul roads. According to the State of California DTSC ENVIROSTOR website (<a href="https://www.envirostor.dtsc.ca.gov/public/">https://www.envirostor.dtsc.ca.gov/public/</a>), the landfill was capped with approximately 3 to 20 feet of soil cover when landfill operations ceased. Based on review of our previous site explorations, soil cover was encountered to depths ranging from approximately 5 feet to as deep as 30 feet; with an average depth on the order 15 feet. Reportedly, a plastic geomembrane has been installed within the soil cover in a significant portion of Cells 3, 4, and 5 of the former landfill. We are currently unaware of exactly which areas of the site have a geomembrane and the depth at which it is installed. For the purposes of this proposal, we have assumed a geomembrane is present across all areas of Cells 3, 4, and 5 installed at an average depth of 5 feet below ground surface (bgs). If as-built documents can be provided then this proposal can be revisited and costs can be refined.

Our understanding of the project is based on review of the *Vesting Tentative Tract No.* 83481 plan set, dated February 1, 2022, and the *Concept Grading Plan*, dated May 5, 2021, both prepared by Michael Baker International (MBI, 2021, 2022). We understand the currently proposed project consists of re-developing former landfill Cells 3, 4, and 5 with a total of 12 new lots accommodating the construction of warehouse buildings and a park with retail and dining establishments.

Six new warehouse buildings, each containing office space and perimeter paved parking, are proposed with approximate dimensions and floor space as follows:

- Building A roughly 370-foot by 510-foot, 188,700 square feet;
- Building B roughly 380-foot by 270-foot, 102,600 square feet;



- Building C roughly 720-foot by 460-foot, 331,200 square feet;
- Building D roughly 1100-foot by 460-foot, 506,000 square feet;
- Building E roughly 440-foot by 770-foot, 338,800 square feet; and
- Building F roughly 360-foot by 640-foot, 230,400 square feet.

The proposed park area is described as follows:

 Park – 14 buildings including café, retail, drive-thru restaurants, and restrooms across approximately 11 acres.

Additional improvements include driveways, utility infrastructure, and landscaping. Based on our recent correspondence, we understand the concept design footprint could/may change and therefore our exploration approach is aimed at providing adequate coverage across Cells 3, 4 and 5 should the design change from what is currently proposed.

### **SCOPE OF WORK**

At EKI's request, Leighton's scope of work is limited to providing the necessary equipment, labor, and field oversight to complete the soil cover investigation. EKI will be responsible for locating explorations, official field documentation, and reporting.

Leighton's anticipated scope of work consists of the following:

- Review available documents with pertinent geotechnical information for site and surrounding slopes.
- Preparation of Health and Safety Plan (HASP) including coordination of submittal to DTSC with other members of the design team.
- Provide geophysical survey crew for subsurface utility clearance of proposed exploration locations (includes Leighton field oversight).
- Provide equipment and labor to perform subsurface exploration to determine the nature and thickness of the soil cover and determine top of refuse and top of liner elevations (includes Leighton field oversight).
- Reinternment of investigative derived waste generated from bottom of trash exploration.

The methodology to perform the required tasks in accordance with the project Work Plan (EKI, 2022) is presented in the following sections.



# **Document Review and Coordination**

We will review available documents with pertinent geotechnical information on the project site in our in-house library, published in the literature, and available from the project team. This process has been started in support of this proposal.

## **Geophysical Utility Clearance**

After EKI has performed an initial site mark-out, and prior to subsurface exploration, Leighton will provide a subcontracted geophysical utility locator to screen the near subsurface for potential buried utilities associated with the existing gas collection system. The utility locator will utilize passive and active electromagnetic utility-location methods along with ground penetrating radar to provide clearance of the proposed exploration location. Exploration locations will be adjusted as needed to when in conflict with subsurface features. As required by the state of California, we will also notify Underground Service Alert of the locations of our planned explorations prior to drilling.

We will attempt to avoid utilities; however, despite reasonable efforts to avoid damages, there are inherent risks to utilities from drilling. To reduce these risks, we will review utility plans provided to us for utility conflicts. We cannot assume responsibility for the inherent risks if the utilities are not accurately mapped on plans made available to us. Our proposal does not include costs or other provisions for utility repairs.

## **Subsurface Exploration Program**

Up to 100 subsurface explorations will be performed to better delineate the thickness of soil cover present at the project site. Subsurface exploration will consist of both top of trash (TOT) and top of liner (TOL) excavations and will include test trenches advanced by an excavator and vacuum truck pothole excavation to anticipated depths ranging from 5 to 30 feet below ground surface (bgs). In all cases of excavation, soils will be temporarily staged on plastic sheeting and soil will be monitored by EKI using SCAQMD Rule 1166 to segregate non-VOC impacted soil from VOC-impacted soil. If VOC-impacted soil or waste-impacted soil is encountered, these materials will be reconsonsolidated at depth beneath the cap and not placed near the surface. We anticipate field exploration to take approximately 25 days to complete. Specifics regarding each type of exploration are described below:

• **Top of Trash Explorations:** Up to 60 TOT test trenches will be advanced to anticipated depths ranging from 5 to 30 feet bgs with an excavator to measure the depth from ground surface to the top of the trash layer. When top of trash is



encountered, EKI will measure and document the depth at which trash was encountered. Upon completion, stockpiled soil cuttings will be backfilled starting with VOC-impacted and waste-impacted soils (if any) and capped with non-impacted soils. All material will be placed in loose lifts and compacted with the excavator bucket to ground surface. Any excess soil (non-impacted) will be spread at the surface. Each TOT test trench will be backfilled before days end and open trenches will not be permitted overnight.

Top of Liner Explorations: Up to 40 TOL explorations will be excavated to depths ranging from 5 to 30 feet bgs using either vacuum truck or excavator in areas believed to be underlain by a geomembrane liner. The purpose of this phase of exploration is to confirm the presence of a geomembrane liner, and document depth to liner from ground surface. A maximum of 20 TOL explorations will penetrate the geomembrane liner to verify the thickness of the underlying foundation layer.

In locations where the geomembrane is not intended to be penetrated, the exploration will be performed with a vacuum truck pothole excavation advanced to liner depth. Once the liner is encountered, EKI will measure and document the depth to liner from the ground surface. Upon completion, the pothole will be backfilled with the soil cuttings to the ground surface.

Where the liner is intended to be penetrated for verification of foundation layer thickness, the excavation will be performed using an excavator with capped bucket. The excavation will be advanced to liner depth and either sloped or benched to allow safe entry into the test trench. The geomembrane will then be cut and peeled back so the thickness of foundation layer and elevation of top of trash can be measured and documented by EKI. The liner will then be rolled back into place and a cement/bentonite slurry will be mixed and placed by chute to a minimum thickness of 12 to 18 inches to seal the liner breach. The cement/bentonite seal will be mixed according to the following DTSC-approved mix design:

- > 150 pounds of bentonite
- > 94 pounds of cement
- 2,500 pounds of sand
- > 45 gallons of water

The cement/bentonite slurry will be allowed to cure for approximately 24 to 48 hours. Once the seal has sufficiently cured, the excavation will be backfilled starting with VOC-impacted and waste—impacted soils (if any) and capped with non-impacted soils.



Where penetrated, the foundation layer will be backfilled with excavated material and compacted to a minimum of 90% relative compaction. A technician from Leighton will verify minimum compaction requirements utilizing a nuclear gauge in accordance with ASTM Test Method D6938 Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods. Once the liner is sealed, remaining soil cover material will be placed in loose lifts and compacted with the excavator bucket to ground surface. Any excess soil (non-impacted) will be spread at the surface.

Dust control consisting of application of water will be performed during all exploration activities. If waste or impacted soils are encountered that produce emission and/or nuisance odors (Level III or greater per SCAQMD), mitigation measures consisting of water spray, plastic sheeting, and/or covering of stockpiles with 6 inches of clean soil will be implemented. If these initial mitigation measures prove insufficient and recalcitrant odors or exceedance of the VOC emission threshold remains, a 4% solution of Biosolve Pinkwater will be applied via water truck to the waste and/or impacted soils.

## Reinternment of Investigation Derived Waste

Investigative derived waste (IDW) generated during the on-going bottom of trash geotechnical exploration is currently being stored in roll-off bins located in Cell 5. We understand based on discussion with Mr. Mike Sullivan of RE Solutions, LLC and Mr. Herman Codoner of Golder Associates, the IDW can be placed within a low lying area located near the western limits of Cell 5. The IDW will be placed directly on the existing ground surface within the low-lying area in thin lifts and covered with a minimum of 12 inches of clean soil. The clean soil cover will be sourced from on-site stockpiles at the direction of EKI.

### **Decontamination Procedures**

For safety purposes, the site will be divided into three specific zones based on contamination potential: Zone 1 – Exclusion Zone; Zone 2 – Contamination Reduction Zone; and Zone 3 – Support Zone.

The **Exclusion Zone** is the area of the most suspect environmental contamination and presents the greatest potential for worker exposure. Personnel entering the area must wear the mandated level of personal protective equipment (PPE).

The **Support Zone** serves as a clean control area and covers all area outside of the Contamination Reduction Zone. It is the location where administrative and support



functions will be performed to keep the field operations running smoothly. All vehicles will remain in this area except those which support the activities in the Exclusion Zone.

The **Contamination Reduction Zone** serves as a transition area between the Exclusion Zone and the Support Zone. Decontamination facilities for personnel and any vehicles or heavy equipment exiting the Exclusion Zone are in the Contamination Reduction Zone. All areas will be defined and marked as appropriate.

All personnel will be required to complete appropriate decontamination procedures in a manner that is responsive to actual site conditions prior to leaving the site. A decontamination area will be set up at an appropriate site location. Wash tubs containing an appropriate decontamination solution and soft-bristle brushes will be used to decontaminate reusable personal protective clothing and boots. Following the decontamination solution washing, equipment will be rinsed at least once prior to use of the appropriate decontamination solution.

Decontamination and rinse solutions will be disposed of in DOT 17H rated drums which are properly labeled and secured onsite at the staging area pending receipt of analytical results. Drums will also be provided for all disposable clothing. Disposable clothing will be placed in drums, and then discarded accordingly. Each individual shall conduct proper personal hygiene, which includes washing any exposed skin prior to eating, drinking, or leaving the site. Smoking is not allowed onsite.

We will decontaminate all excavation equipment at the site after operations are complete. The equipment will be steam cleaned, and sampling equipment (if any) will be washed with TSP phosphate-free soap.

Prior to leaving the site, heavy equipment or vehicles which have entered the Exclusion Zone will be cleaned of gross contamination. Heavy equipment or vehicles will also be thoroughly decontaminated at a decontamination station set up for the decontamination of heavy equipment and vehicles.

# **Geotechnical Data Report**

We will present the subsurface exploration data collected during the proposed exploration in a data report. Alternatively, we can instead verify the subsurface exploration data that will be presented in the EKI report for conformance with our field observation and documentation.



### **SCHEDULE**

We estimate that we can begin our explorations within two to four weeks of receiving approval of our HASP from DTSC. Geophysical utility clearance is anticipated to take 4 days to complete and subsurface field exploration is expected to take approximately 25 days.

### **FEES**

The fee for our services will be based on our 2022 Professional Fee Schedule; on a not to exceed time-and-materials basis. The estimated fee is broken down in the following table based on Prevailing Wage rates:

Table 1 – Geotechnical Fees Prevailing Wage – Test Pit Exploration

Task Description	Estimated Fee
Background research, field preparation, and coordination	\$ 1,752.00
Work plan and health and safety plan preparation	2,730.00
Geophysical utility location – Leighton field costs	8,700.00
Subsurface exploration – Leighton field costs (25 days for up to 100 explorations)	54,378.00
Compaction testing – Leighton field costs (assume 80 hours for up to 20 exploration locations)	13,840.00
Geotechnical Data Report	5,000
Subtotal	\$86,400.00
Prevailing Wage Outside Costs plus 10% Markup	
Geophysical utility location contractor – 4 days	\$ 13,090.00
TOT/TOL excavation subcontractor – 25 days	315,774.00
Additional subcontractor scope – Reinternment of trash/minimum compaction standards*	74,800
Subtotal	\$403,664.00
Grand Total	\$490,064.00

<sup>\*</sup>Represents an allowance for additional requested scope. Cost subject to change based on actual estimate from subcontractor.

The fee for the subsurface explorations shown in the tables above should be considered as a rough estimate because of the nature of the subsurface materials and possible subsurface obstructions. Production rate may vary depending upon a variety of circumstances including, but not limited to, limited access, site restrictions, weather, the



necessity for deeper explorations, etc. We will make every reasonable attempt to advance as many explorations per day as a function of subsurface conditions encountered. We may encounter impenetrable materials or materials that will bind up equipment and may require abandonment and relocation of explorations. We suggest an optional contingency of approximately 15 percent of the total fee estimate to attempt to address these extra costs that may be incurred.

The fee estimate will be valid for a period of 90 days from the date of this proposal. Our fee does not include additional services or work requested by you or your other consultants, or by the controlling public agencies during the review process.

The fees stated in this proposal have been made based on the following assumptions:

- The project is subject to prevailing wage requirements. Should prevailing wage not be applicable the above listed cost can be adjusted to reflect the change in rates.
- EKI will be responsible for locating explorations (including determination of total number of explorations), official field documentation, and reporting
- EKI will be responsible for SCAQMD 1166 monitoring during excavation and stockpile segregation
- Ambient air monitoring (SCAQMD Rules 403, 1150, and 1466) will be performed by others
- Topographical survey and survey of exploration locations will be performed by others
- The site plans for which this proposal are based may be subject to change; and
- Work will be performed during normal working hours (Mon-Fri 7AM to 5PM). Overtime is not included.

### **TERMS AND CONDITIONS**

We understand that the scope and tasks for this project are subject to California Prevailing Wage Laws. We propose to perform the aforementioned services on a time & materials basis in accordance with the terms and conditions provided in the existing *Agreement for Contract Services Between Carson Reclamation Authority and Leighton Consulting, Inc.* dated November 19, 2021. If the services are awarded to Leighton and the scope of work is acceptable to you, please send us an executed Purchase Order.



# **CLOSURE**

Should you have any questions regarding this proposal, please do not hesitate to call our office. Leighton appreciates this opportunity to serve your geotechnical needs.

Respectfully submitted,

LEIGHTON CONSULTING, INC.

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### EMH/CCK/Ir

Attachments: References

2022 Professional Fee Schedule

Distribution: (1) Addressee



## **REFERENCES**

- EKI Environment & Water, Inc., 2022, Top of Trash Investigation Work Plan for Cells 3, 4, and 5, The District/Carson Country Mart Cells 3, 4 and 5 Development, 20400 South Main Street, Carson, California, 90745, EKI Project No. C10112.00, dated March 25, 2022.
- Leighton Consulting, Inc., 2007, Assumption of Responsibilities as Geotechnical Engineer of Record and Verification of Validity of Existing Report, Proposed Avalon at South Bay Development, 20400 Main Street, Carson, California, Prepared for the Department of Toxic Substances Control, Project No. 602050-001, dated October 31, 2007.
- \_\_\_\_\_\_, 2008a, Geotechnical Investigation and Recommendations for the Proposed Avalon at South Bay Development, 20400 Main Street, Carson, California, Prepared for Carson Marketplace, LLC, Project No. 602050-001, dated April 21, 2008 (Revised May 28, 2008).
- - \_\_\_\_\_\_, 2009b, Addendum No. 3 to Revised Geotechnical Report Response to County of Los Angeles Department of Public Works Geotechnical and Materials Engineering Division Geologic Review Sheet dated November 19, 2008 and Soils Engineering Review Sheet dated December 10, 2008, Proposed Boulevards at South Bay Development, 20400 Main Street, Carson California, Prepared for Carson Marketplace, LLC, Project No. 602050-003, dated January26, 2009.
- \_\_\_\_\_, 2009c, Addendum No. 4 to Revised Geotechnical Report Response to County of Los Angeles Department of Public Works Geotechnical and Materials Engineering Division Geologic Review Sheet dated February 26, 2009 and Soils













